

Lightsource Test Report

Product Information

Product Category: LED-Röhre
 Product Spec: LEDtube-150-8Bread-25W
 Manufacturer: METOLIGHT
 Buyer: 7116

Product Type: LED-Röhre-Spezial
 Product Number: 1
 Submitted Unit: 104311

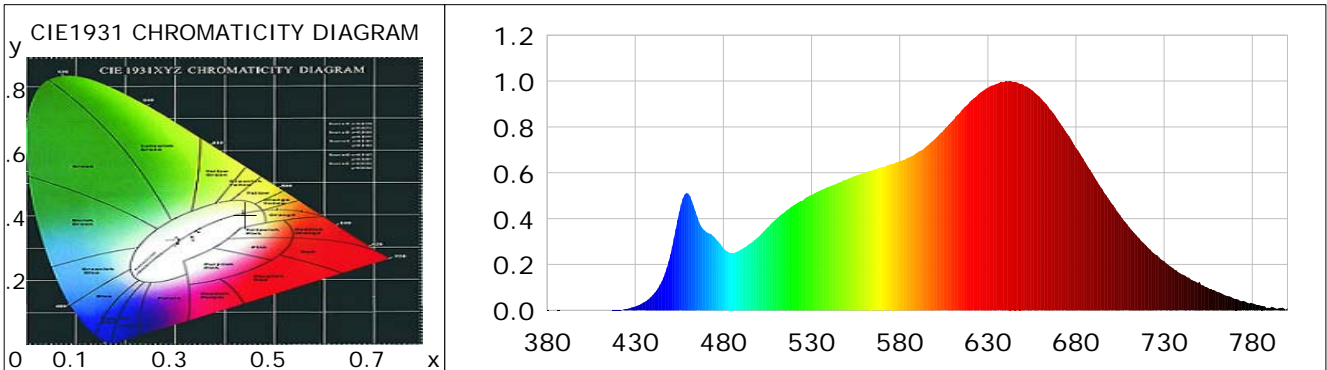
CIE Colorimetric Parameters

Chromaticity coordinates: $x=0.4418$ $y=0.4053$ $u(u')=0.2532$ $v=0.3484$ $v'=0.5226$
 CCT: $T_c=2930K$ ($duv=-0.00016$) Color Ratio: $R=0.257$ $G=0.711$ $B=0.032$
 Peak Wavelength: 642.5nm Half Bandwidth: 168.5nm
 Dominant Wavelength: 583.2nm Color Purity: 0.543
 CRI: $R_a=97.1$, $avgR(1\sim14)=96.0$, $avgR(1\sim15)=96.0$ TM30: $R_f=91$, $R_g=98$
 GAI: $GAI_BB_8=100.3$, $GAI_BB_15=107.4$, $GAI_EES=55.6$

R1 =97	R2 =98	R3 =98	R4 =97	R5 =97	R6 =97	R7 =97	R8 =96
R9 =95	R10=98	R11=98	R12=81	R13=97	R14=98	R15=97	

Color Quality Scale: $Q_a=93.8$, $Q_f=94.8$, $Q_p=96.7$, $Q_g=98.2$

Q1 =89	Q2 =95	Q3 =94	Q4 =92	Q5 =92	Q6 =93	Q7 =98	Q8 =98
Q9 =96	Q10=96	Q11=97	Q12=96	Q13=97	Q14=96	Q15=93	



Photometric Parameters

Luminous Flux: 2142.2 lm Efficiency: 87.08 lm/W Radiant Power: 8.399 W
 Total mains efficacy: 102.41 lm/W Energy Efficiency Class: F (EU 2019/2015)
 Pupil Flux: 2875.23 Plm Pupil Lumens Per Watt: 116.88 Plm/W Pupil Factor (Kp): 1.342
 Circopic Flux: 5498.80 lm

Electric Parameters

Voltage: 230.50V Current: 0.1130A Power: 24.60W
 Power Factor: 0.9400 Frequency: 49.99Hz

Test Information

Scan Range: 380~800:1nm Photometric Method: sphere-spectroradiometer
 Stabilization Time: 0 ms ALC.: 1.0000 Photometric Condition: Sphere diameter: 2.00m, 4PI
 Max of Signal: 46443 (2663) CCD Integration Time: 237.93 ms

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WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)	WL(nm)	PL	PE(mW/nm)
380	0.0014	0.0701	525	0.4787	23.2239	670	0.8276	40.1503
385	0.0007	0.0327	530	0.5037	24.4333	675	0.7701	37.3570
390	0.0003	0.0162	535	0.5226	25.3506	680	0.7085	34.3681
395	0.0002	0.0085	540	0.5393	26.1638	685	0.6474	31.4076
400	0.0003	0.0154	545	0.5557	26.9601	690	0.5868	28.4676
405	0.0001	0.0058	550	0.5709	27.6961	695	0.5276	25.5950
410	0.0003	0.0144	555	0.5869	28.4702	700	0.4684	22.7233
415	0.0007	0.0342	560	0.5991	29.0651	705	0.4151	20.1361
420	0.0016	0.0799	565	0.6129	29.7310	710	0.3643	17.6749
425	0.0063	0.3052	570	0.6244	30.2914	715	0.3204	15.5436
430	0.0172	0.8357	575	0.6375	30.9284	720	0.2810	13.6318
435	0.0356	1.7251	580	0.6508	31.5712	725	0.2439	11.8301
440	0.0673	3.2653	585	0.6663	32.3219	730	0.2147	10.4164
445	0.1261	6.1170	590	0.6879	33.3718	735	0.1842	8.9342
450	0.2443	11.8521	595	0.7144	34.6549	740	0.1577	7.6497
455	0.4294	20.8310	600	0.7470	36.2393	745	0.1350	6.5471
460	0.5090	24.6942	605	0.7862	38.1394	750	0.1238	6.0034
465	0.4098	19.8810	610	0.8269	40.1146	755	0.0975	4.7317
470	0.3440	16.6861	615	0.8707	42.2400	760	0.0803	3.8964
475	0.3177	15.4114	620	0.9115	44.2202	765	0.0648	3.1456
480	0.2713	13.1626	625	0.9457	45.8760	770	0.0499	2.4216
485	0.2493	12.0947	630	0.9716	47.1358	775	0.0403	1.9554
490	0.2649	12.8504	635	0.9879	47.9268	780	0.0301	1.4582
495	0.2906	14.0961	640	0.9983	48.4292	785	0.0197	0.9576
500	0.3217	15.6057	645	0.9950	48.2707	790	0.0111	0.5361
505	0.3611	17.5187	650	0.9844	47.7563	795	0.0093	0.4535
510	0.3984	19.3278	655	0.9602	46.5788	800	0.0099	0.4783
515	0.4298	20.8500	660	0.9258	44.9114			
520	0.4588	22.2555	665	0.8789	42.6349			

Condition: Tx:22.4'C, Ti:0.0'C, R.H.:60%
 Test Lab:
 Operator: CRE

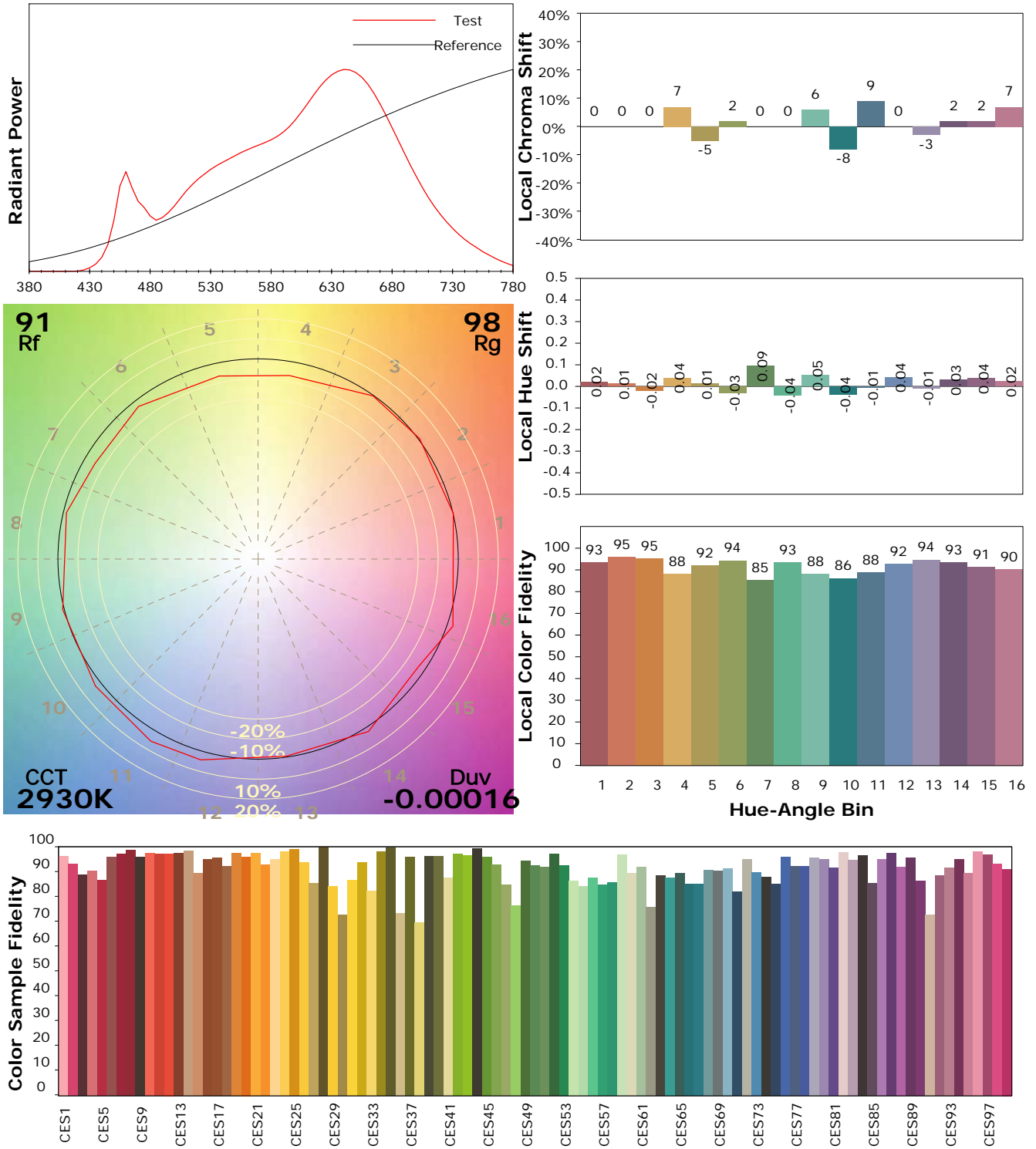
Test Device: Lisun LMS-9000B
 Test Time: 2021-02-17 10:34:57
 Inspector:

IES TM-30-18 Color Rendition Report

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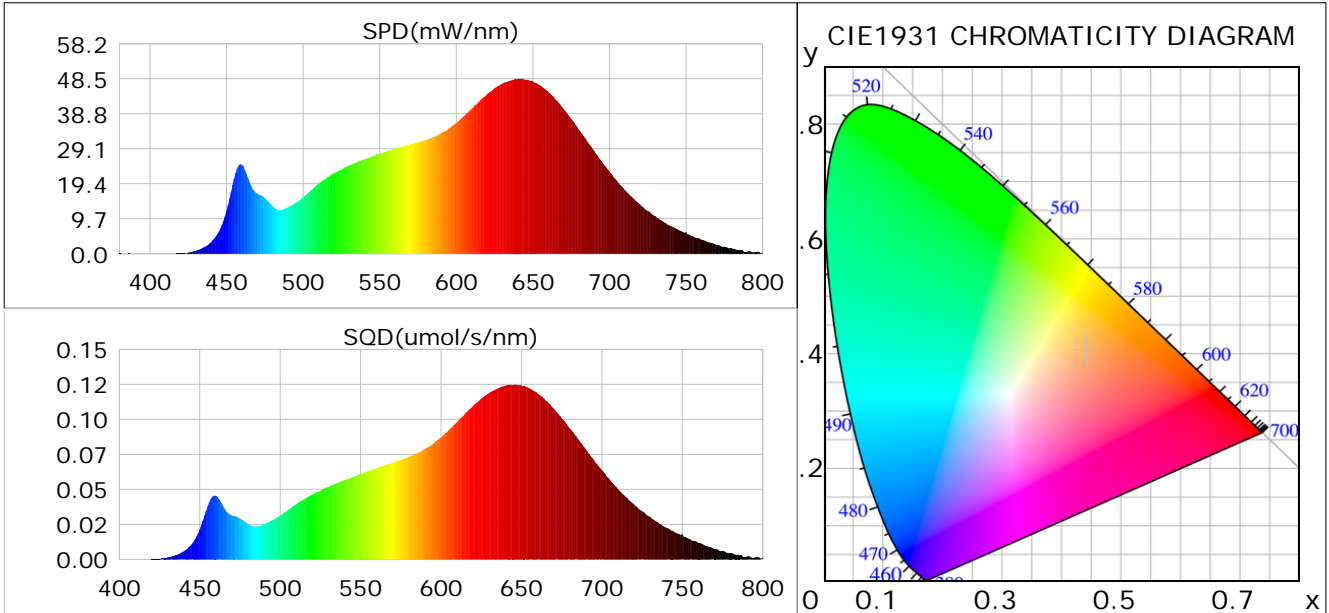
Condition: Tx:22.4°C, Ti:0.0°C, R.H.:60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-02-17 10:34:57
 Inspector:

Plant optical param data

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Chromaticity coordinates: $x=0.4418$ $y=0.4053$ $u(u')=0.2532$ $v=0.3484$ $v'=0.5226$
 CCT: $T_c=2930K$ ($duv=-0.00016$) Color Ratio: $R=0.257$ $G=0.711$ $B=0.032$
 Peak Wavelength: 642.5nm Half Bandwidth: 168.5nm
 Dominant Wavelength: 583.2nm Color Purity: 0.543
 CRI: $R_a=97.1$



Plant Optical Param

$ \mu_v(lm): 2142.20$	$Q_v(lm.s): 2142.20$
$ \mu_e, \dot{E}(W/nm): 8.40$	$Q_e(J): 8.40$
$ \mu_e(W): 7.68$	$ \mu_{fr}(W): 0.76$
$ \zeta_e: 0.31$	$ \zeta_{fr}: 0.03$
$PPE(umol/s/w): 1.55$	$K_{fr}: 0.18$
$Erb_Ratio: 4.42$	$PPF(umol/s): 38.12$
$PF_{uv}(360-400)(umol/s): 0.00$	$PPF(400-500)(umol/s): 3.60$
$PPF(500-600)(umol/s): 12.60$	$PPF(600-700)(umol/s): 21.92$
$PPF_{fr}(700-800)(umol/s): 4.46$	$PPF.t(umol): 38.12$
$ \mu_{ch-A.t}(J): 0.69$	$ \mu_{ch-A}(W): 0.69$
$ \mu_{ch-B.t}(J): 0.31$	$ \mu_{ch-B}(W): 0.31$
$ \mu_b.t(J): 0.92$	$ \mu_b(W): 0.92$
$ \mu_y.t(J): 2.73$	$ \mu_y(W): 2.73$
$ \mu_r.t(J): 4.09$	$ \mu_r(W): 4.09$

Electric Parameters

Voltage: 230.50V	Current: 0.1130A	Power: 24.60W
Power Factor: 0.9400	Frequency: 49.99Hz	

Condition: $T_x: 22.4^\circ C$, $T_i: 0.0^\circ C$, R.H.: 60%
 Test Lab:
 Operator: CRE

Test Device: Lisun LMS-9000B
 Test Time: 2021-02-17 10:34:57
 Inspector: